1.) Determine the volume of the solid formed by revolving the region bounded by the graphs of the given equations about the $x$-axis.
   a.) $y = \cos((1/2)x), \ y = 0, \ x = 0, \ x = \pi$
   b.) $y = 3 + \sin x, \ y = 1, \ x = 0, \ x = \pi$
   c.) $y = \sqrt{2}\cos x, \ y = \tan x, \ x = 0, \ x = \pi/4$

2.) Determine the volume of the solid formed by revolving the region bounded by the graphs of the given equations about the $y$-axis.
   a.) $y = x + 1, \ y = 0, \ x = 0$
   b.) $y = x^2, \ y = x^3, \ x = 0, \ x = 1$

3.) Determine the volume of the solid formed by revolving the region bounded by the graphs of $y = e^x, \ y = 1, \ x = \ln 2$ about the given axis. SET UP ONLY.
   a.) $x$-axis
   b.) $y$-axis

4.) Determine the volume of the solid formed by revolving the region bounded by the graphs of $y = 4 - 2x, \ y = 0, \ x = 0$ about the given axis. SET UP ONLY.
   a.) $x$-axis
   b.) $y$-axis
   c.) line $x = 3$
   d.) line $y = -2$

5.) Determine the volume of the solid formed by revolving the region bounded by the graphs of $y = x^3$ and $y = 4\sqrt{2}x$ about the given axis. SET UP ONLY.
   a.) $x$-axis
   b.) $y$-axis
   c.) line $x = -1$
   d.) line $y = 8$